

AMENDMENTS

In the Claims:

1. (Previously Presented) A bone substitute material comprising at least the following components:
 - a) a soft matrix, which is formed by mixing the living cells of b) with a fibrinogen solution and then a thrombin solution;
 - b) living cells, at least some of which are osteoblasts or precursors thereof;
 - c) a setting matrix, which is formed by mixing the soft matrix of a) with a setting material comprising an aqueous solution of non-ceramic hydroxyapatite cement.

Claims 2 and 3. (Cancelled).

4. (Previously Presented) A bone substitute material of claim 1, wherein the soft matrix further comprises ϵ -aminocaproic acid or aprotinin.
5. (Previously Presented) A bone substitute material as claimed in claim 1, wherein the soft matrix comprises at least one substance selected from the group consisting of chondroitin sulfate, proteoglycans, sialoproteins, growth factors, hormones, nucleic acids coding for growth factors and hormones.
6. (Previously Presented) A bone substitute material as claimed in claim 1, wherein the soft matrix comprises at least one substance selected from the group consisting of biological collagen gel, gelatin, alginates, agarose, polysaccharides, synthetic collagen, hydrogels and viscous polymers.
7. (Cancelled).
8. (Previously Presented) A bone substitute material as claimed in any one of claims 1, 4, 5, or 6, which additionally comprises living angiogenic cells.
9. (Previously Presented) A bone substitute material of claim 8, wherein the

angiogenic cells are endothelial cells or precursors thereof.

Claims 10 and 11. (Cancelled).

12. (Previously Presented) A bone substitute material of any one of claims 1, 4, 5, 6 or 9, wherein the setting matrix comprises polyglycolic/lactic acid (PGLA).

13. (Previously Presented) A bone substitute material as claimed in claim 12, wherein the setting matrix solidifies within 15 minutes.

Claims 14-38. (Cancelled).

39. (Currently Amended) ~~The~~ A bone substitute material ~~of claim 4~~, which is produced by mixing soft matrix material and setting matrix material in a device ~~for preparing and administering a mixture for forming a mixture~~, wherein said soft matrix material comprises living cells that have been treated with a fibrinogen solution and then a thrombin solution and wherein said setting matrix material comprises an aqueous solution of non-ceramic hydroxyapatite cement and wherein said device comprises comprising:

- a) a mixing chamber with an outlet opening through which the mixture can emerge,
- b) a first main supply channel ~~(main channel)~~ for carrying a stream of setting matrix material leading into the mixing chamber and
- c) at least one or more other subsidiary supply channel channels ~~(subsidiary channels) leading for carrying soft matrix material~~ into the mixing chamber, wherein said mixture that emerges from said mixing chamber is said bone substitute material. ~~where the end of the subsidiary channel/the ends of the subsidiary channels are arranged in the mixing chamber so that material entering the mixing chamber from the subsidiary channel/subsidiary channels can penetrate into the material stream entering the mixing chamber from the main channel.~~